REMARKS

This amendment is responsive to the non-Final Office Action of June 3, 2008. Reconsideration and allowance of claims 1-20 are requested.

The Office Action

Claims 1-3 and 6-18 stand rejected under 35 U.S.C. § 102 as being anticipated by Schulze (US 6,893,396).

Claims 1, 6-13, and 16 stand rejected under 35 U.S.C. § 102 as being anticipated by Khair (US 2002/0109621).

Claims 4 and 5 stand rejected under 35 U.S.C. § 103 as being unpatentable over Schulze.

The Drawings Comply With 37 CFR 1.84

The portable ECG monitor **12** has a loudspeaker **30** and the portable pulsoximeter unit **14** has a loudspeaker **28**. That is, each of the portable units has its own loudspeaker. Although loudspeakers **28** and **38** are similar elements in the sense thatboth are loudspeakers, each is a different loudspeaker and is part of a different portable unit. Because the pulsoximeter loudspeaker **28** is a different loudspeaker from the ECG unit loudspeaker **30**, it is submitted that reference numerals **28** and **30** are used to designate different structures, i.e., different loudspeakers.

Similarly, because the ECG unit 12 includes a three-colored LED **34** and the pulsoximeter unit **14** includes a different LED **32**, it is submitted that reference numerals **32** and **34** designate different LEDs which are parts of different structures.

Accordingly, it is submitted that it is proper to designate different structural elements which are subcomponents of different devices using different reference characters. It is further asserted that designating two different structural elements with the same reference numeral would be confusing and improper.

Reference numeral **44** has been added to the specification.

Accordingly, it is submitted that no new or corrected drawings are required.

The Present Application

The present application discloses a medical monitoring system **10** which includes a plurality of mobile devices (page 1, line 10) including a pulsoximeter measuring apparatus **14** and an ECG measuring apparatus **12**. Each of the remote measuring apparatuses has a sensor **16, 18** which senses physiological activity in a patient. Specifically, the pulsoximeter measuring device **14** includes a sensor **18** which senses blood oxygen level and pulse rate in the finger. Typically, a pulsoximeter includes infrared or other diodes which measure light transmissive or reflective characteristics through blood vessels in a finger. The sensor **18** sends blood oxygen and pulse measuring signals to the remote pulsoximeter measuring apparatus **14**. Analogously, a plurality of ECG electrodes **16** pick-up ECG measuring signals which are carried by wires to the ECG measuring apparatus **12**. The pulsoximeter measuring apparatus **14** and ECG measuring apparatus **12** both communicate via a wireless, e.g., radio, communication network **26** with a remote central or base data detection device **24**. That is, the device **24** collects data from all of the remote devices and displays it on a display **38**.

As noted at page 1, lines 19-29 of the present application, the placement of the pulsoximeter sensor **18** and the ECG electrode **16** on the body affects the quality of the measuring signals which the sensors put out. That is, if the ECG sensors are not correctly positioned, they will not pick-up the cardiac signals or will not pick them up well or properly. Similarly, if the pulsoximeter sensor is improperly positioned, the pulse and blood oxygen measuring signal will be of low quality. If the pulse, blood oxygen, or ECG measuring signals from the sensors **16, 18**, to the remote units **12, 14** is of low quality, then inaccurate or erroneous physiological data will be collected by the remote units. For example, if $1/10^{th}$ of the blood pulses are not sensed, a heart rate of 100 pulses/minute will be erroneously reported as only 90 pulses/minute. Similarly, cardiac arrhythmias can be missed or be inserted where none occurs. Thus, if the quality of the measuring signal from the sensors **16, 18** is not adequate, the measured physiological data is unreliable.

The present application addresses the correction for the generation and transmission of low quality physiological data being transmitted to the central unit **24**. Specifically, if one of the remote measuring apparatuses **12, 14** determines that the

quality of the pulse, blood oxygen, or ECG signal from the corresponding sensor **16, 18** is of low quality, the remote measuring apparatus **12, 14** alerts the patient **20** to adjust the position or placement of the sensors **16, 18**. The patient **20** can be alerted acoustically via loudspeaker **28, 30**, or visually via LED output **32, 34**. In this manner, the remote measuring apparatus **12, 14** signals the patient when the quality of the pulse, blood oxygen, or ECG measuring signal is low, enabling the patient to adjust the placement of the sensor or take other appropriate corrective action.

Of course, other types of sensors for measuring other types of physiological data are also contemplated. Pulse, blood oxygen, and ECG measuring signals are given only by way of example. Moreover, the above explanation is to facilitate understanding by the Examiner and is not to be taken as limiting the claims.

The References of Record

The references of record address a different problem in a different way to achieve a materially different end result. Specifically, **Schulze** and **Khair** both take the physiological data measuring signals as good and reliable. Schulze and Khair both measure the quality of the RF carrier signals which transfer the physiological data information from a remote measuring apparatus to a base unit. Stated another way, the present application goes to whether the measured physiological data signals are of suffieient quality to be relied upon; while Schulze and Khair are concerned with the quality of the RF transmission between the remote measuring apparatus and the central or base unit. Schulze and Khair are analogous to monitoring the number of bars on a cell phone, in that they measure communication channel quality. By contrast, the present application is concerned with the quality of the underlying medical information.

The Claims Distinguish Patentably Over the References of Record

Claim 1 calls for measuring the quality of the measuring signals, i.e., the signals generated by the at least one sensor. By contrast, Schultz and Khair both take the quality of the measuring signals as accurate and measure the quality of the wireless communication channel or signal.

Moreover, claim 1 calls for the mobile measuring apparatus to signal the quality of the measuring signals generated by the sensors. By contrast, Schulze displays the strength of the communication signal from the host unit. Khair detects transmission errors and requests retransmission. To the extent communication errors are detected, they appear to be detected at the base unit.

By signaling the quality of the measurement signals as called for in claim 1, the patient is able to reposition the sensors, if and as necessary, to improve the quality of the measuring signals. By contrast, Schulze and Khair measure the quality of the communication, and to the extent any display of such quality is generated, it only advises the viewer of the quality of the communication link and does not provide the user with any information about the quality of physiological parameter measuring signals or otherwise enable the patient to reposition the sensors.

Dependent **claims 2-12** further limit claim 1 and set forth additional distinctions relative to Schulze and Khair.

Accordingly, it is submitted that **claim 1** and **claims 2-12 dependent therefrom** are not anticipated by and distinguish patentably and unobviously over the references of record.

Claim 13 calls for at least one measuring apparatus which includes one or more sensors which measure physiological patent data and transfer the measured data to the measuring apparatus. The measuring apparatus further includes means for determining a quality of the measured physiological patient data and a means for signaling the quality. By contrast, Schulze determines a quality of wireless communication signals between a base unit and a remote measuring apparatus. Schulze makes no suggestion of determining a quality of measured physiological data. Khair fails to cure this shortcoming of Schulze. Khair monitors for errors in a communications signal and requests a retransmission when a communication error is detected.

Accordingly, it is submitted that **claim 13** and **claims 14-15 dependent therefrom** are not anticipated by and distinguish patentably and unobviously over the references of record.

Claim 16 calls for a medical measurement device comprising at least one measurement apparatus including means for wirelessly transmitting medical data

to a remote site, one or more sensors for measuring medical data, and a means for determining and a means for signaling a quality of the medical data. By contrast, Schulze and Khair determine a quality of or errors in a wireless transmission signal. Both Schulze and Khair assume that the underlying medical data is accurate and make no suggestion of either determining the quality of such underlying medical data or signaling the quality.

Accordingly, it is submitted that **claim 16** and **claims 17-20 dependent therefrom** are not anticipated by and distinguish patentably and unobviously over the references of record.

CONCLUSION

For the reasons set forth above, it is submitted that claims 1-20 (all claims) distinguish patentably over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, the Examiner is requested to telephone Thomas E. Kocovsky, Jr. at (216) 861-5582.

Respectfully submitted,

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